DATA EVALUATION RECORD

1. Chemical: Triclopyr BE Ester

2. Test Material: Technical, 97.7% ai

3. Study Type: Honey bee acute contact LD50

Species tested: Apis mellifera

4. Study ID: Dingledine, J. 1985. Triclopyr BE Ester: An acute contact toxicity study with honey bees. Wildlife International Ltd. Project No. 103-240. Submitted by Dow Chemical Co., Midland, MI. EPA Acc. No. 412191-09.

5. Reviewed By:

Allen W. Vaughan
Entomologist
EEB/EFED

Signature: Allen W. Vaughan
Date: 10.15.90

6. Approved By

Norman J. Cook
Supervisory Biologist
EEB/EFED

Signature: Norman J. Cook
Date: 10.18.90

7. Conclusions:

This study is scientifically sound, and shows triclopyr BE ester to be practically nontoxic to honey bees. In an acute contact test, the LD50 was determined to be greater than 100 micrograms per bee. This study fulfills the guideline requirement for an acute contact toxicity test on honey bees.

8. Recommendations: N/A

9. Background: This study was submitted in support of registration of triclopyr BE ester.

10. Discussion of Individual Tests: N/A

11. Materials and Methods:

Seven days prior to initiation of the study, frames containing pupae were selected from research hives and placed in an automatic incubator. On the day of study initiation, all bees that had emerged were immobilized with CO_2 and at least 25 bees were placed into each test chamber. Test chambers were rolled paper containers. Each container was covered with a plastic petri dish through which a glass vial containing 50% sugar water was inserted. This food source was available to the test bees throughout the study.

Test bees were maintained in the dark except during dosing and daily observations. Test temperatures ranged from 24.4 to 27.8° C.

Five treatment levels, 13, 22, 36, 60, and 100 micrograms per bee, were tested along with a solvent control and a negative control. Two replicates were tested at each dosage, with 25 bees per replicate. The solvent control bees received a volume of acetone equal to the largest volume used during the test.

Recently collected bees were immobilized with CO_2 to facilitate handling. Each bee was individually dosed with the appropriate test solution. Solvent control bees were dosed with acetone.

Observations on mortality and signs of toxicity were made twice on the day of initiation and once on Day 1 and Day 2 after dosing.

The mortality pattern in this study was not conducive to calculating the LD50 value. An LD50 was estimated by visual inspection of the mortality data.

12. Reported Results:

The study authors found that triclopyr BE ester was practically nontoxic to honey bees, with an LD50 greater than 100 ug per bee.

13. Study Authors' Conclusions/ QA Measures

48-hr. LD50 greater than 100 ug per bee (practically nontoxic).

14. Reviewer's Discussion and Interpretation of the Study

A. Test Procedures: Procedures were in accordance with protocols recommended in the guidelines. There were no problems in this regard.

B. Statistical Analysis: Due to the nature of the data, no analysis was conducted.

C. Discussion/Results: Triclopyr BE ester is practically nontoxic to honey bees.

D. Adequacy of Study:

1. Classification: Core

2. Rationale: Guidelines protocol

3. Reparability: N/A

15. Completion of One-Liner for Study: N/A

16. CBI Appendix: N/A